

TWO NEW SPECIES OF KOANOPHYLLON (ASTERACEAE-EUPATORIEAE)
FROM NORTHEASTERN MEXICO.

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Exploration of the poorly explored eastern slopes of the Sierra Madre Oriental continue to yield a rich assemblage of undescribed taxa. The two species described below are closely related to Koanophyllon longifolia (B. L. Robs.) K. & R. but are readily separable, as noted in the discussion that follows each.

KOANOPHYLLON REYROBINSONII: B. L. Turner, sp. nov.

K. longifolia similans sed laminis foliorum latioribus minus pubescentibus, petiolis perbrevioribus, capitulis confertioribus.

Suffruticose perennial to 1.5 m tall. Stems brittle, evenly pubescent with crisped, multiseptate hairs, these often with purplish cross-walls. Leaves broadly ovate to cordate, irregularly crenate-dentate, 5-15 cm long, 4-10 cm wide, strongly reticulate, the upper surfaces sparsely puberulent but soon glabrate, lower surface glandular-punctate, evenly pubescent with tawny to white, crisp hairs, these persisting on the major veins; petioles 3-10 mm long. Capitulescence terminal, cymose-paniculate, 3-15 cm long, 4-12 cm wide. Ultimate peduncles 2-10 mm long. Heads reportedly "cream", broadly turbinate, 10-15 flowered, 5-6 mm long. Involucre 3.5-4.2 mm long, 2-3 seriate, eximbricate, except for the outer-most 1-3 bractlets; phyllaries 10-14, linear-lanceolate, both puberulous and atomiferous-glandular. Corollas glabrous, tubular, 2.5-3.0 mm long; tube ca. 0.6 mm wide, gradually (rarely abruptly) flaring into an ampliate limb 1.0-1.5 mm wide; lobes acute to obtuse-apiculate, ca. 0.25 mm long, 0.50 mm wide, atomiferous-glandular. Anthers ca. 1.5 mm long, the appendages obtuse, wider than long to somewhat longer than wide. Style branches ca. 6 mm long, the appendages linear-oblancoolate to somewhat abruptly linear-clavate. Achenes ca. 3 mm long, 1 mm wide, 4-5 costate, sparsely hispid; pappus of 40-50 persistent setae, 2-3 mm long.

TYPE. MEXICO: Nuevo Leon. Sierra Madre, Monterrey, 27 May 1908, C. G. Pringle 15596. (Holotype LL; isotype GH).

Additional specimens examined: NUEVO LEON: 6.9 mi W of Linares along highway 58, 23 Oct 1981, Dorr et al. 2041

(TEX); foot of Chipinque, Monterrey, 9 Oct 1937, L. A. Kenoyer s.n. (F); canyon above El Dentro, Monterrey, Oct 1961, R. F. Smith M583 (TEX). TAMAULIPAS: Sierra de Tamaulipas, ca. 40 Km NNW of Atdama, Las Yucas, "El Pinosa", in pine-oak forest, without date, R. L. Dressler 2412 (GH).

Koanophyllon reyrobinsonii is an exceedingly variable taxon to judge from the relatively few specimens examined, most of these from near Monterrey. The type has pubescent, light green, somewhat thickish leaves which are densely glandular-atomiferous beneath, while the collection of Dorr et al. possesses large, membranous, dark green, nearly glabrate leaves which are only sparsely glandular-atomiferous. Nevertheless, these several collections are quite similar and together show a variation from population to population that is fairly typical for other species of Asteraceae in the region.

It is a pleasure to name the plant for R. M. King and Harold Robinson whose work has brought to the fore the extraordinary diversity of opinion that exists among synantherologists as to what constitutes a genus in the tribe Eupatorieae. While I do not pretend to know the "wisdom" of describing the present novelty as a member of the resurrected genus Koanophyllon or as a member of Eupatorium as envisioned by the late B. L. Robinson, I have opted for the former simply because experience has shown that this combination will be formulated regardless of "need" (King and Robinson, 1977; *Phytologia* 37: 458.). In the meantime the synantherological community (including myself) might meditate with more care the best way to treat the Koanophyllon complex: as a genus? as an infrageneric category within Eupatorium as envisioned by B. L. Robinson? or perhaps as a subgeneric category within some other, yet earlier, generic group (e.g. Critonia).

KOANOPHYLLON RICHARDSONII: B. L. Turner, sp. nov.

K. longifolium similans sed foliis adpresse puberulis, laminis tenuibus ovatis vix reticulatis basibus obtusis, achaeniis saepe glanduloso-pubescentibus vel glabris.

Shrub 1.0-2.5 m tall; appressed-puberulent to glabrate. Leaves 4-15 cm long; blades thin, sparsely reticulate, broadly to narrowly ovate, mostly obtuse at the base (rarely rounded or acute), sparsely appressed puberulent to glabrate, densely and uniformly glandular-punctate; petioles (15) 20-40 mm long. Capitulescence terminal, up to 10 cm long, 15 cm wide. Ultimate peduncles mostly 2-6 mm long. Heads turbinate, reportedly "pink" or "pale pink", 8-15 flowered, 5-6 mm long. Involucre

3-4 mm long, 2-3 seriate, eximbricate; phyllaries 9-11, linear-lanceolate, sparsely minutely puberulent and atomiferous-glandular. Corollas glabrous, ca. 3 mm long; tube ca 1.3 mm long, gradually ampliate into a limb ca 1.2 mm wide; lobes ca. 0.3 mm long, 0.4-0.5 mm wide, sparsely atomiferous-glandular. Anthers ca. 1.5 mm long, the appendages ovate, obtuse, longer than wide. Style branches 6-8 mm long, the appendages linear, 5-6 mm long. Achenes 2-3 mm long, 1 mm wide, 4-5 costate, glandular-pubescent or nearly glabrous (rarely a few isolated hairs near the apex); pappus of 30-50 persistent setae, 2-3 mm long.

TYPE. MEXICO: Tamaulipas. Rancho del Cielo, Gomez Farias, growing along trail, 26 Nov 1968, Alfred Richardson 1014. (Holotype, TEX).

Additional Specimens Examined. SAN LUIS POTOSI: Minas de San Rafael, Nov 1910, Purpus 4808 (F); Pelote, Nov 1910, Purpus 4823 (F). TAMAULIPAS: 50 mi W of Mante, Liquidambar woods, 28 Nov 1946, M. C. Johnston s.n. (TEX); Rancho del Cielo, 26 Nov 1968, Richardson 993 (TEX), 996 (TEX), 997 (WISC), 1068 (TEX), 1080 (WISC), 1081 (TEX); 6.3 mi W of Ciudad Victoria, 22 Dec 1976, Turner P6 (LL); Jaumave, "near San Lucas", Jan 1933, Von Rozynski 651a (F); Rancho del Cielo, Nov 1964, F. & M. Webster 85 (TEX), 117 (TEX); 9.9 rd. mi SW of Ciudad Victoria, 6 Jun 1982, Worthington 8445 (TEX).

Koanophyllon richardsonii, like K. reyrobinsonii, is exceedingly variable, especially in leaf shape. It is readily distinguished from the latter by its exceedingly well-developed petioles, which also exceed those of K. longifolia. It differs from both of these species in its predominately glandular-pubescent to glabrous achenes and thin, scarsely reticulate leaves.

Figure 1 shows the distributional relationships of these several taxa. Koanophyllon longifolia, according to label data, occurs in relatively wet, oak-dominated closed forests on the eastern slopes of the Sierra Madre at 1400-1600 meters. K. reyrobinsonii occurs mostly about Monterrey in pine-oak forests at lower elevations and presumably in drier habitats. K. richardsonii, at least at the type locality, occurs at somewhat higher elevations in drier sites in relatively wet forests. According to data on the Johnston collection (Ciudad Juarez, 50 mi W of Mante) the latter species was found in Liquidambar woods but it also occurs at much lower sites along the canyon bottoms to the west of Ciudad Victoria.

It is a pleasure to name this species for my ex-student, Alfred Richardson, Professor of Biology at Southern-most University, Brownsville, Texas, who has assembled a fine suite of collections from Rancho del Cielo and who first called the plant to my attention.

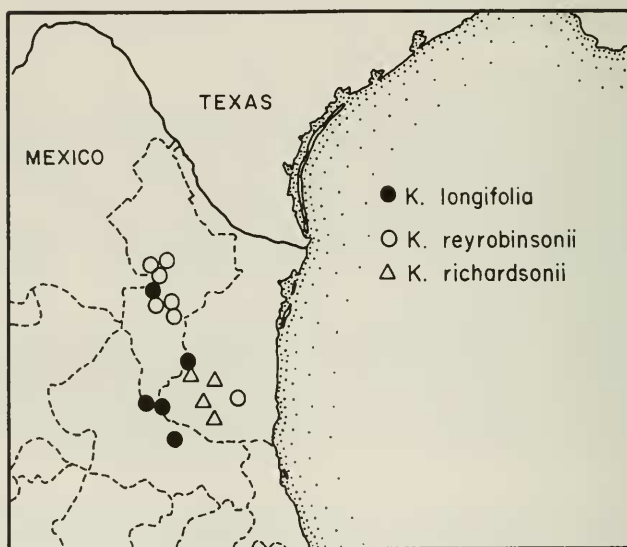


Fig. 1. Distribution of *Koanophyllon* species.